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MINOR STUDIES FROM THE PSYCHOLOGICAL LABORATORY OF WELLESLEY COLLEGE.

Communicated by MARY WHITON CALKINS.

IV. STUDIES OF THE DREAM CONSCIOUSNESS.

II.

By GRACE A. ANDREWS.

No psychologist has as yet discovered what every one of them desires: an experimental method of varying and repeating stimulations of the dream consciousness, which shall not at the same time vitiate the conditions of natural dreaming. The simplest method, that of giving the subject a definite stimulus just before he falls asleep, has been tested by Mr. Monroe¹ with visual stimuli and with tastes, and has recently been applied by the writer with visual stimuli. The subjects were six Wellesley College students, only one of them, however, the writer, trained in dream introspection. The materials were small squares of colored glass, about four by four inches, green and red, and illuminated from behind; similar squares of colored paper (a less adequate material); and two simple colored lithographs, one of a mounted horsewoman, the other of a woman surrounded by flowers. Just before going to bed the subjects of the experiment looked fixedly for five minutes at the colors, and for ten minutes at the pictures. The results are briefly these:

The trained subject has dreams on 3 out of 4 nights, probably suggested by the fixated colors or objects; and the average number of her remembered dreams is 5.4, as compared with an average of 3.4 on the nights of ordinary dreaming. One of the other subjects has these suggested dreams on two out of four nights, and has three cases of dreams which are possibly suggested by the experiment of a previous night. Of the other subjects there are two who have one dream each apparently suggested by the experiment; and, finally, there are two whose dreams seem unaffected.

For several reasons these experiments were discontinued before obtaining sufficient records for even a tentative conclusion. The inexperienced observers obviously required training in the observation and record of their normal dreams before the attempt to vary experimentally the conditions of their dreaming. There are, however, more fundamental difficulties which

¹This *Journal*, Vol. IX, p. 413; Vol. X, p. 326.

seriously affect the value of such experimenting upon even the trained observer. There is the disadvantage attendant upon all investigation in which a person experiments upon himself; there is the further objection that stimulation and supposed result are separated by a considerable interval of time; and, finally, there is the lack of any observer of the attendant conditions.

The ideal method would provide for the excitation of the dreamer through auditory, olfactory or dermal stimuli, applied by the experimenter at different periods during the night. The practical difficulties, however, seem to be all but insurmountable. We have used, for instance, music boxes gently playing, intense and heavy odors, and cool surfaces for the immediate stimulation of dreams, but have failed in every instance, through prematurely waking the dreamer. Awaiting the more successful application of this method, or the discovery of a more effective one, there can hardly be too many records, by careful observers, of all their dreams during a series of nights. Such a record¹ of 118 dreams, was kept by the writer, during her second year of psychological study. The dreams were, with few exceptions, recorded continuously during six weeks immediately upon waking; the records were re-read upon the following day to discover their links with the waking life; and the records, as a whole, were carefully studied when entirely completed. The most significant results of the study may be summarized as follows:

Nearly 90 per cent. of these dreams are clearly suggested by the waking experience; more than one-half refer to occurrences of the same week, nearly one-half to the immediate environment, and two-thirds to people of the every-day life. Visual experiences predominate, as in the case of most dreamers, occurring in 96 dreams, that is in 81 per cent. of the total number. Nearly half of these dreams include color-sensations, and these have been a source of much æsthetic pleasure. On the other hand, only 7 dreams could be definitely remembered as containing auditory sensations, and few of the conversations seemed to be actually heard.

In most dreams of apparent taste and smell, sight sensation clearly does duty for both the others. The records, however, contain accounts of one clear, gustatory dream and of the two following olfactory dreams: I was holding a can from which came a vapor which the sponge absorbed. I soon began to be oppressed by the strong, stifling choking odor, and wondered how long I could stand it before becoming chloroformed myself. (I woke from the dream almost immediately and analyzed the experience as carefully as possible, remem-

¹ Cf. throughout M. W. Calkins, *Statistics of Dreams*. This *Journal*, V, p. 311.

bered that I had had no dream of smelling while keeping the record, and went to sleep again.) I then dreamed of looking off in the direction of Milton and of thinking and saying that beyond lay the ocean. I immediately got the keenest and most natural smell of wind from the flats and the delicious ocean odor. This gave me such intense pleasure, as it always does, that I awoke. (This dream, like the other, was carefully thought over upon waking, and seemed even more clearly to contain a pure and rich sensation of smell.) The following is the record of the taste dream: "Feb. 25, after 2.30 A. M. Dream 148. We were, I think, at the house in L, where we lived, eight years ago. We had a new kind of bluing; I saw some of it in blue streaks in the water. Father had put some in a well from which our drinking water came. I thought it was deadly poison and did not see how he could have been so careless. I had drank some of the water before I knew. It had a horrid metallic taste (like the taste of copper sulphate, which I got during the fall, from a drop on my blotting-paper).

The dreams seem, also, to include discomfort rather than physical pain. In a dream of being bitten by a kitten, whose red, open mouth I saw . . . I could not recall that I had suffered any pain. The experience seemed a complex of visual and tactual elements of an extreme intensity, rather than pain.

The frequent emotions of these dreams are, all of them, nearly as vivid and strong as those of the waking life, and many of them are stronger. Indeed, the dream emotion seems to me the most real element of the dream life and the one most to be depended on to follow the laws of waking consciousness. Although 29 of the 50 distinct and namable emotions are classed as unpleasant, yet the general affective impression of the dream, as a whole, was usually pleasant, perhaps because of the interest in the change of scene and the pleasant uncertainty of 'what next.' Æsthetic pleasure, also, often questioned as a dream-experience, forms an important part of dream pleasure, especially in dreams of color and of nature.

There are 34 clear instances of reasoning and argument—usually, of course, on absurd or trivial premises. In dream 13, for example, seeing "a doll which went by clock-work and was attached to a little cart, drawn by dogs which ran alongside," I "wondered how the machinery was regulated so that the doll just kept up with the dogs and what would happen if they ran faster." The composition, in dream 69, of the word 'Orthogeneous' in opposition to 'heterogeneous' is another case of reasoning, quite distinct from the mere association of words through *similar sounds*.¹

Besides the natural association with each other, of the objects and events of these dreams, there is a frequent tendency

¹ Cf. James Sully, *Illusions*, c. 7, p. 181, note.

to connection between dreams of the same night. Thus, dreams 1 and 2, though of a totally different character, are both enacted on the deck of a steamer; and dream 3, of a vegetable garden, is followed by a dream of lettuce. This relatively uncontrolled association of the dream-life is responsible, of course, for the dream-story. There seems to be a close analogy between the way in which the events of the dream-story are evolved from our own imagination, with no plan or foreknowledge on our part, and the relation of the novelist to his characters, which in many instances assume a personality, speak, act and arrange their own destiny, almost without his control. The writer's dream-story is often both seen and heard as if read aloud by herself or another. Its events often have an unusual consistency, showing some unifying control by the mind. Often, also, it involves the phenomenon of so-called Double Identity. This may consist, in its simplest form, in merely watching the action of another (which is, nevertheless, my own dream-consciousness), or it may be something so complicated as to baffle description, the dreamer being at once spectator and actor and sharing in the emotions of each, as in the following dream: "Jan. 15, 5 A. M. Dream 35. A woman was being married in a cave, according to the ceremony of some savage tribe. I was, in quick succession—or at the same time, as it seems,—the woman herself and a spectator. The ceremony was connected with a magic stone, at first, small, greenish, with red spots, afterward larger, irregularly shaped. Then I was going down a street in Boston. When I reached a certain house, a very small man—the husband—appeared and led me up the steps and up a flight of stairs. After going up stairs, the woman or myself—I was both actor and spectator—threw herself into his arms, but the man was so small—a mere small boy—that he was overpowered by the onslaught, lost his balance and nearly fell to the floor. In my character of spectator I saw the ludicrous side of this, laughed and thought it very funny."

It will be observed that this dream involves no real 'change of identity.' The self of the dreamer is by turns observer and heroine, but does not disappear, however bewildering the change of circumstance. Indeed, these records confirm at all points every careful study of the dream experience. All such records disclose the intense individuality of the dream-life—even less susceptible than the waking experience of reduction to rigid general laws; they manifest also its inherent absurdities, due, of course, to the absence of waking criteria of reality; on the other hand, they bear unequivocal testimony to the presence in the dream-life of thought, moral reflection and æsthetic emotion as well as sensation and primitive feeling, and to the integral unity of the dreaming with the waking consciousness.